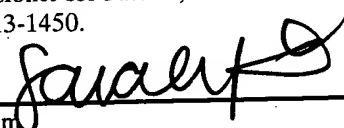




PATENT

I hereby certify that on January 31, 2005, which is the date I am signing this certificate, I am depositing this correspondence and all identified attachments with the U.S. Postal Service, with sufficient postage as First Class Mail in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Sarah Kim

Applicants: Moon Jong NOH et al.
Serial No.: 09/707,900
Filed: November 8, 2000
Title: GENE THERAPY USING TGF- β
Examiner: Michael C. Wilson
Art Unit: 1632
Attorney Docket No.: 59520-00007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. § 1.56, the references listed below and on the attached forms PTO/SB/08A and PTO/SB/08B (substitutes for form 1449/PTO) are being brought to the attention of the Examiner for consideration in connection with the examination of the above-identified patent application. The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), as an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists. The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner. A copy of the cited document is enclosed.

U.S. Patent Document:

1. 4,886,747, Derynck et al. December 12, 1989
2. 5,168,051, Derynck et al. December 1, 1992
3. 5,284,851, Derynck et al. February 8, 1994
4. 5,482,851, Derynck et al. January 9, 1996
5. 5,770,774, Hattersley et al. December 23, 1997
6. 5,766,585, Evans et al. June 16, 1998
7. 5,801,231, Derynck et al. September 1, 1998

02/04/2005 MAHHE1 00000007 09707900

-1-

03 FC:1806

180.00 DP

8. 5,846,931, Hattersley et al. February 2, 1999
9. 5,858,355, Glorioso et al. January 12, 1999
10. 5,902,741, Purchio et al. May 11, 1999

Foreign Patent Document:

1. WO96/39196, December 12, 1996
2. WO97/25414, July 17, 1997
3. WO99/11789, March 11, 1999
4. WO99/56785, November 11, 1999

English Non-patent Documents:

1. Chernajovsky Y: Systemic gene therapy for arthritis. *Drugs of Today*, 35(4-5):361-377, Apr-May 1999.
2. Robbins PD, Evans CH and Chernajovsky Y: Gene therapy for rheumatoid arthritis. *Springer Seminars in Immunopathology*, 20: 197-209, 1998.
3. Evans CH and Robbins PD: Gene therapy of arthritis. *Internal Medicine*, 38(3): 233-9, Mar. 1999.
4. Evans CH, Ghivizzani SC and Robbins PD: Blocking cytokines with genes. *J Leucocyte Biol.*, 64:55-61, 1998.
5. Mason JM, Grande DA, Barcia M, Grant R, Pergolizzi RG and Breitbart AS: Expression of bone morphogenetic protein 7 in primary rabbit periosteal cells: potential utility in gene therapy for osteochondral repair. *Gene Therapy*, 5:1098-1104, 1998.
6. Arai Y, Kubo T, Kobayashi K, Takeshita K, Takahashi K, Ikeda T, Imanish J, Takigawa M and Hirasawa Y: Adenovirus vector-mediated gene transduction to chondrocytes: in vitro evaluation of therapeutic efficiency of transforming growth factor-beta-1 and heat shock protein 70 gene transduction. *J. Rheumatol*, 24:1787-1795, 1997.
7. Otani K, Nita J, Macaulay W, Georgescu H, Robbins P and Evans CH: Suppression of antigen induced arthritis in Rabbits by ex vivo gene therapy. *J Immunol.*, 156:3558-3562, 1996.
8. Andrew JG, Hoyland J, Andrew SM, Freemont AJ and Marsh D: Demonstration of TGF-beta-1 mRNA by in situ hybridization in normal fracture healing. *Calcif Tissue Int*, 52: 74-78, 1993. (Abstract only)
9. Bourque WT, Gross M and Hall BK: Expression of four growth factors during fracture repair. *Int J Dev Biol*, 37: 573-579, 1993. (Abstract only)
10. Brand T and Schneider MD: Inactive type II and type I receptors: TGF-beta are dominant inhibitors of TGF-beta-dependent transcription. *J Biol Chem*, 270: 8274-8284, 1995.
11. Brittberg M, Lindahl A, Nilsson A, Ohlsson C, Isaksson O and Peterson L: Treatment of deep cartilage defects in the knee with autologous chondrocyte transplantation. *New Engl J Med* 331: 889-895, 1994.

12. Carrington JL, Roberts AB, Flanders KC, Roche NS and Reddi AH: Accumulation, localization and compartmentation of TGF-beta. during enchondral bone development. *J Cell Biology*, 107: 1969-1975, 1988.
13. Centrella M, Massague J and Canalis E: Human platelet-derived transforming growth factor-.beta. stimulates parameters of bone growth in fetal rat calvariae. *Endocrinology*, 119: 2306-2312, 1986. (Abstract only)
14. Cheifetz S, Weatherbee JA, Tsang MLS, Anderson JK, Lucas R, Massague J: Transforming growth factor beta system, a complex pattern of cross-reactive ligands and receptors. *Cell*, 48: 409-415, 1987.
15. Chenu C, Pfeilschifter J, Mundy GR and Roodman GD: TGF-beta inhibits formation of osteoclast-like cells in long-term human marrow cultures. *Proc Natl Acad Sci*, 85: 5683-5687, 1988.
16. Critchlow MA, Bland YS and Ashhurst DE: The effect of exogenous transforming growth factor beta 2 on healing fractures in the rabbit. *Bone*, 521-527, 1995.
17. Dallas SL, Miyazono K, Skerry TM, Mundy GR and Bonewald LF: Dual role for the latent transforming growth factor beta binding protein in storage of latent TGF-beta in the extracellular matrix and as a structural matrix protein. *J Cell Biol*, 131: 539-549, 1995.
18. Dumont N, O'Connor M and Philip A: Transforming growth factor receptors on human endometrial cells: identification of the type I and II receptors and glycosyl-phosphatidylinositol anchored TGF-beta binding proteins. *M Cell Endo*, 111: 57-66, 1995.
19. Frenkel SR, Toolan B, Menche D, Pitman MI and Pachence JM: Chondrocyte transplantation using a collagen bilayer matrix for cartilage repair. *J Bone J Surg [Br]* 79-B: 831-836, 1997. (Abstract only)
20. Heine UI, Munoz EF, Flanders KC, Ellingsworth LR, Peter Lam H-Y, Thompson NL, Roberts AB and Sporn MB: Role of Transforming Growth Factor-.beta. in the development of the mouse embryo. *Cell Biology*, 105: 2861-2876, 1987.
21. Joyce ME, Roberts AB, Sporn MB and Bolander ME: Transforming Growth Factor-beta and the initiation of chondrogenesis and osteogenesis in the rat femur. *J Cell Biology*, 110: 2195-2207, 1990.
22. Lind M, Schumacker B, Soballe K, Keller J, Melsen F, and Bunger: Transforming growth factor-beta enhances fracture healing in rabbit tibiae. *A Orthop Scand*, 64(5): 553-556, 1993. (Abstract only)
23. Lopez-Casillas F, Chifetz S, Doody J, Andres JL, Lane WS Massague J: Structure and expression of the membrane proteoglycan component of the TGF-beta receptor system. *Cell*, 67: 785-795, 1991.
24. Madri JA, Pratt BM and Tucker AM: Phenotypic modulation of endothelial cells by Transforming Growth Factor-.beta. depends upon the composition and organization of the extracellular matrix. *J Cell Biology*, 106: 1375-1384, 1988.
25. Massague J: TGF-beta Signal Transduction. *Ann. Rev. Biochem.* 67:753-791, 1998.

26. Matsumoto K, Matsunaga S, Imamura T, Ishidou Y, Yosida H Sakou T: Expression and Distribution of Transforming Growth Factor-beta. During Fracture Healing. In vivo, 8: 215-220, 1994. (Abstract only)
27. Meert, KL, Ofenstein, JP, Genyea, C, Sarnaik, AP, Kaplan, J, Elevated Transforming Growth Factor-beta. Concentration Correlates with Posttrauma Immunosuppression, The Journal of Trauma, Injury, Infection and Critical Care, 40(6): 901-906, 1996. (Abstract only)
28. Miettinen PJ, Ebner R, Lopez AR and Derynck R: TGF-beta Induced Transdifferentiation of Mammary Epithelial Cells to Mesenchymal Cells: Involvement of Type I Receptors. J Cell Biology, 127-6: 2021-2036, 1994.
29. Ozkaynak E, Rueger DC, Drier EA, Corbett C and Ridge RJ: OP-1 cDNA Encodes an Osteogenic Protein in the TGF-beta Family. EMBO J, 9: 2085-2093, 1990. (Abstract only)
30. Sporn MB and Roberts AB: Peptide Growth Factors are Multifunctional. Nature (London), 332: 217-219, 1988. (Abstract only)
31. Wakefield LM, Smith DM, Flanders KC and Sporn MB: Latent Transforming Growth Factor-beta from Human Platelets. J Biol Chem, 263, 7646-7654, 1988.
32. Wrana JL, Attisano L, Wieser R, Ventura F and Massague J: Mechanism of Activation of the TGF-beta Receptor. Nature, 370: 341-347, 1994. (Abstract only)
33. Song X-y, Gu M, Jin W-w, Klinman DM and Wahl SM: Plasmid DNA Encoding Transforming Growth Factor-beta1 Suppresses Chronic Disease in Streptococcal Cell Wall-induced Arthritis Model. J. Clin. Investigation, 101: 2615-2621, Jun. 15, 1998.
34. Sittinger M, Perka C, Schultz O, Haupl T and Burmester G-R: Joint cartilage regeneration by tissue engineering. Zeitschrift fuer Rheumatologie, 58(3): 130-135 Jun. 1999.
35. Prud'homme G, Lawson BR and Theofilopoulos AN: Anticytokine Gene Therapy of Autoimmune Diseases. Exp: Opin. Biol. Ther, 1(3):359-373, 2001.

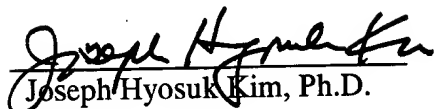
Foreign Language Non-patent Documents:

1. Moller HD, Fu FH, Niyibizi C, Studer RK, Georgescu HJ, Robbins PD and Evans CH: TGF-beta-1 gentransfer in gelenkknorpelzellen (TGF beta-1 gene transfer in articular chondrocytes). Der Orthopade, 29(2): 75-9, Feb. 2000. (English abstract attached)
2. Moller HD and Evans CH: Genetherapeutische Ansätze in der Arthrosebehandlung (Gene transfer in the treatment of arthritis). Orthopade, 28(1): 76-81, Jan. 1999. (English abstract attached)

It is respectfully requested that the Examiner indicate consideration of the cited references by returning copies of the attached forms PTO/SB/08A and PTO/SB/08B with initials or other appropriate marks, and that the references be made of record as cited references in the application.

Respectfully submitted,

Dated January 31, 2005

A handwritten signature in dark ink, appearing to read "Joseph Hyosuk Kim", is written over a horizontal line.

Joseph Hyosuk Kim, Ph.D.

Reg. No. 41,425

Attorney for Applicants

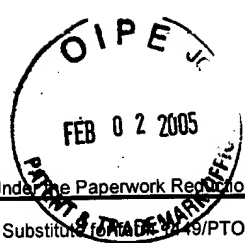
JHK Law

P.O. Box 1078

La Canada, CA 91012-1078

Telephone: (818) 249-8177

Facsimile: (818) 249-8277



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known

Application Number	09/707,900
Filing Date	November 8, 2000
First Named Inventor	Moon Jong Noh
Art Unit	1632
Examiner Name	Michael C. Wilson
Attorney Docket Number	55293-00007

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 4,886,747	12-12-1989	Derynck et al.	Whole document
		US- 5,168,051	12-01-1992	Derynck et al.	Whole document
		US- 5,284,851	02-08-1994	Derynck et al.	Whole document
		US- 5,482,851	01-09-1996	Derynck et al.	Whole document
		US- 5,770,774	12-23-1997	Hattersley et al.	Whole document
		US- 5,766,585	06-16-1998	Evans et al.	Whole document
		US- 5,801,231	09-01-1998	Derynck et al.	Whole document
		US- 5,846,931	02-02-1999	Hattersley et al.	Whole document
		US- 5,858,355	01-12-1999	Glorioso et al.	Whole document
		US- 5,902,741	05-11-1999	Purchio et al.	Whole document
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

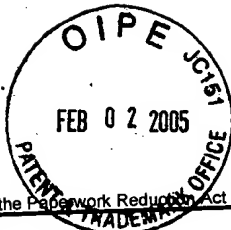
Examiner Initials*	Cite No. ¹		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	B1	1. WO96/39196	12-12-1996	University of Pittsburgh	whole document	
	B2	2. WO97/25414	07-17-1997	Vandenburgh	whole document	
	B3	3. WO99/11789	03-11-1999	North Shore University	whole document	
	B4	4. WO99/56785	11-11-1999	University of Pittsburgh	whole document	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	09/707,900
Filing Date	November 8, 2000
First Named Inventor	Moon Jong Noh
Art Unit	1632
Examiner Name	Michael C. Wilson
Attorney Docket Number	55293-00007

NON PATENT LITERATURE DOCUMENTS

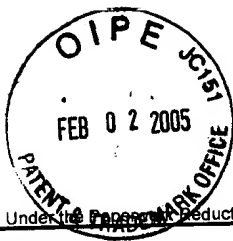
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	CHERNAJOVSKY: Systemic gene therapy for arthritis, Drugs of Today, 35(4-5):361-377, Apr.-May 1999.	
	C2	ROBBINS et al.: Gene therapy for rheumatoid arthritis, Springer Seminars in Immunopathology, 20: 197-209, 1998.	
	C3	EVANS and ROBBINS: Gene therapy of arthritis, Internal Medicine, 38 (3): 233-9, Mar. 1999.	
	C4	EVANS et al.: Blocking cytokines with genes, J Leucocyte Biol., 64:55-61, 1998.	
	C5	MASON et al.: Expression of bone morphogenic protein 7 in primary rabbit periosteal cells: ~, Gene Therapy, 1998.	
	C6	ARAI et al.: Adenovirus vector-mediated gene transduction to chondrocytes:~ J. Rheumatol, 24:1787-1795, 1997.	
	C7	OTANI et al.: Suppression of antigen induced arthritis in Rabbits by ex vivo gene therapy, J Immunol., 156:3558-3562, 1996.	
	C8	ANDREW et al.: Demonstration of TGF-beta-1 mRNA by in situ hybridization in normal fracture healing. Calcif Tissue Int, 52: 74-78, 1993. (Abstract only)	
	C9	BOURQUE et al.: Expression of four growth factors during fracture repair. Int J Dev Biol, 37: 573-579, 1993. (Abstract only)	
	C10	BRAND and SCHNEIDER: Inactive type II and type I receptors: TGF-beta are dominant inhibitors of TGF-beta-dependent transcription. J Biol Chem, 270: 8274-8284, 1995.	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Sheet

2

of

4

Application Number

09/707,900

Filing Date

November 8, 2000

First Named Inventor

Moon Jong Noh

Art Unit

1632

Examiner Name

Michael C. Wilson

Attorney Docket Number

55293-00007

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C11	BRITTEBERG et al.: Treatment of deep cartilage defects in the knee with autologous chondrocyte transplantation. New Engl J Med 331: 889-895, 1994.	
	C12	CARRINGTON et al.: Accumulation, localization and compartmentation of TGF-beta. during enchondral bone development. J Cell Biology, 107: 1969 1975, 1988.	
	C13	CENTRELLA et al.: Human platelet-derived transforming growth factor-beta. stimulates parameters of bone growth in fetal rat calvariae. Endocrinology, 119: 2306-2312, 1986.	
	C14	CHEIFETZ et al.: Transforming growth factor beta system, a complex pattern of cross-reactive ligands and receptors. Cell, 48: 409-415, 1987.	
	C15	CHENU et al.: TGF-beta inhibits formation of osteoclast-like cells in long-term human marrow cultures. Proc Natl Acad Sci, 85: 5683-5687, 1988.	
	C16	CRITCHLOW et al.: The effect of exogenous transforming growth factor. Beta.2 on healing fractures in the rabbit. Bone, 521-527, 1995.	
	C17	DALLAS et al.: Dual role for the latent transforming growth factor beta binding protein in storage of latent TGF-beta~J Cell Biol, 131: 539-549, 1995.	
	C18	DUMONT et al.: Transforming growth factor receptors on human endometrial cells: identification of the type I and II receptors ~. M Cell Endo, 111: 57-66, 1995.	
	C19	FRENKEL et al.: Chondrocyte transplantation using a collagen bilayer matrix for cartilage repair. J Bone J Surg [Br] 79-B: 831-836, 1997. (Abstract only)	
	C20	HEINE et al.: Role of Transforming Growth Factor-beta in the development of the mouse embryo. Cell Biology, 105: 2861-2876, 1987.	

Examiner
Signature

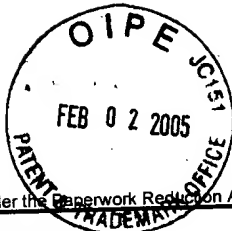
Date

Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	09/707,900
Filing Date	November 8, 2000
First Named Inventor	Moon Jong Noh
Art Unit	1632
Examiner Name	Michael C. Wilson
Attorney Docket Number	55293-00007

Sheet 3 of 4

NON PATENT LITERATURE DOCUMENTS

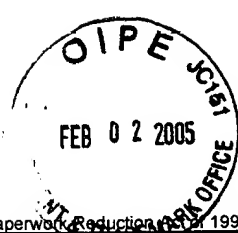
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C21	JOYCE et al.: Transforming Growth Factor-beta and the initiation of chondrogenesis and osteogenesis in the rat femur. J Cell Biology, 110: 2195-2207, 1990.	
	C22	LIND et al.: Transforming growth factor-beta enhances fracture healing in rabbit tibiae. A Orthop Scand, 64(5): 553-556, 1993. (Abstract only)	
	C23	LOPEZ-CASILLAS et al.: Structure and expression of the membrane proteoglycan component of the TGF-beta receptor system. Cell, 67: 785-795, 1991.	
	C24	MADRI et al.: Phenotypic modulation of endothelial cells by Transforming Growth-. Depends upon the composition and organization of-. J Cell Biology, 106: 1375- 1384, 1988.	
	C25	MASSAGUE: TGF-Beta Signal Transduction Ann. Rev. Biochem. 67:753-791, 1998.	
	C26	MATSUMOTO et al.: Expression and Distribution of Transforming Growth Factor-beta. During Fracture Healing. In vivo, 8: 215-220, 1994. (Abstract only)	
	C27	MEERT et al: Elevated Transforming Growth Factor-beta Concentration ~, The Journal of Trauma, Injury, Infection and Critical Care, vol. 40, No. 6, pp. 901-906, 1996.	
	C28	MIETTINEN et al.: TGF-beta Induced Transdifferentiation of Mammary Epithelial Cells ~: Involvement of Type I Receptors. J Cell Biology, 127-6: 2021-2036, 1994.	
	C29	OZKAYNAK et al.: OP-1 cDNA Encodes an Osteogenic Protein in the TGF-beta Family. EMBO J, 9: 2085-2093, 1990. (Abstract only)	
	C30	SPORN and ROBERTS: Peptide Growth Factors are Multifunctional. Nature (London), 332: 217-219, 1988. (Abstract only)	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Project of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	09/707,900
Filing Date	November 8, 2000
First Named Inventor	Moon Jong Noh
Art Unit	1632
Examiner Name	Michael C. Wilson
Attorney Docket Number	55293-00007

Sheet 4

of 4

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C31	WAKEFIELD et al.: Latent Transforming Growth Factor-beta from Human Platelets. J Biol Chem, 263: 7646-7654, 1988.	
	C32	WRANA et al.: Mechanism of Activation of the TGF-beta Receptor. Nature, 370: 341-347, 1994. (Abstract only)	
	C33	SONG et al.: Plasmid DNA Encoding Transforming~, J. Clin. Investigation, 101: 2615-2621, Jun. 15, 1998.	
	C34	SITTINGER et al.: Joint cartilage regeneration by tissue engineering, Zeitschrift fuer Rheumatologie. 58(3): 130-135, Jun. 1999.	
	C35	PRUD'HOMME et al.: Anticytokine Gene Therapy of Autoimmune Diseases. Exp. Opin. Biol. Ther, 1(3):359-373, 2001.	
	C36	MOLLER et al.: TGF-beta-1 gentransfer in gelenkknorpzellen (TGF beta-1 gene transfer in articular chondrocytes). Orthopade, 29(2): 75-9, Feb. 2000. (English abstract)	✓
	C37	MOLLER and EVANS, Genetherapeutische Ansätze in der Arthrosebehandlung (Gene transfer in the treatment of arthritis), Orthopade, 28(1): 76-81, Jan. 1999. (English abstract)	✓
	C38		
	C39		
	C40		

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.